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DECEMBER, 1919.

ENTOMOLOGICAL NEWS

Vol. XXX. No. 10.

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1795-1856.

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PHILADELPHIA:
THE ACADEMY OF NATURAL SCIENCES,
LOGAN SQUARE.

Entered at the Philadelphia Post-Office as Second-Class Matter.
Acceptance for mailing at the special rate of postage provided in Section 1103,
Act of October 3, 1917, authorized on July 19, 1918.

ENTOMOLOGICAL NEWS

published monthly, **excepting August and September**, in charge of the Entomological Section of The Academy of Natural Sciences, Philadelphia, and The American Entomological Society.

ANNUAL SUBSCRIPTION, $2.00 IN ADVANCE.

FOREIGN SUBSCRIPTIONS, $2.20 IN ADVANCE

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One issue, one inch,	$ 1.20,	two inches,	$ 2.40,	half page,	$ 4.00,	full page,	$ 8.00
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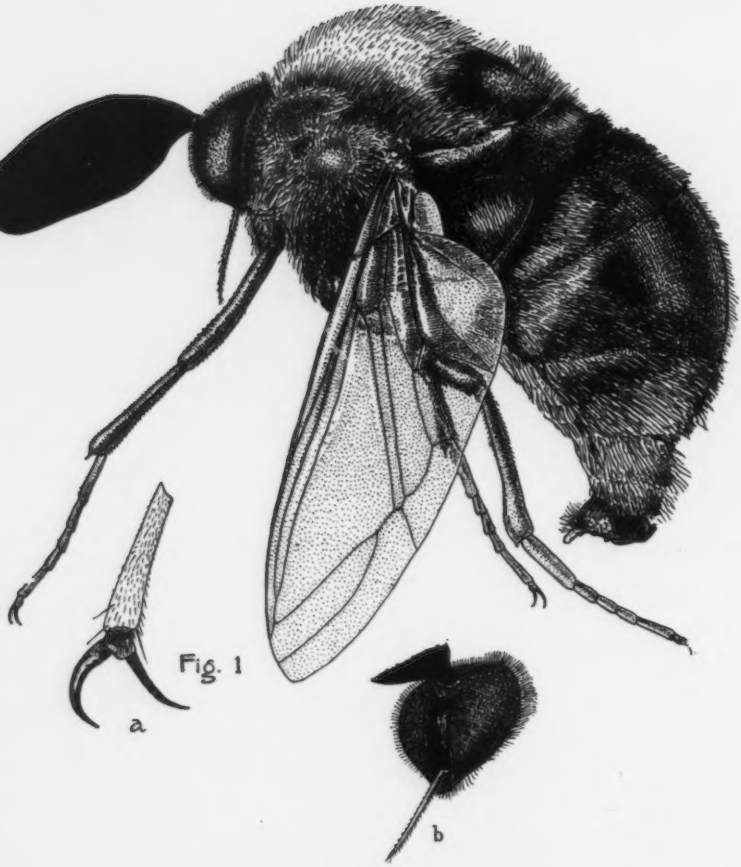

Fig. 1

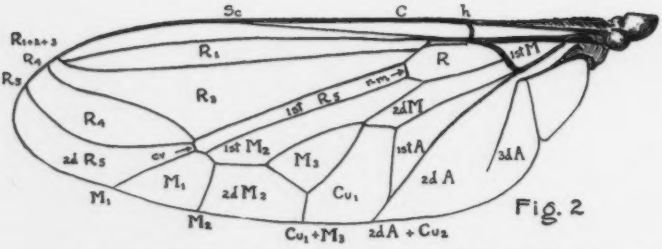

Fig. 2

1. CAMPOSELLA INSIGNATA, N. GEN. ET SP. 2. LASIA SP.—COLE.

ENTOMOLOGICAL NEWS

AND

PROCEEDINGS OF THE ENTOMOLOGICAL SECTION

THE ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

VOL. XXX. DECEMBER, 1919. NO. 10

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A new Genus in the Dipterous Family Cyrtidae from South America.

By F. R. COLE, U. S. Bureau of Entomology.

(Plate XI)

In material received at the United States National Museum from Prof. F. Campos, of the Museum in Guayaquil, Ecuador, there was included a remarkable new Cyrtid. Through the kindness of Dr. J. M. Aldrich, of the National Museum, I am able to describe and figure this interesting specimen. Among other characters there is an almost unbelievable development of the antennae, and it is small wonder that some of the entomologists at the National Museum thought they were dreaming when they came across it in the collection.

CAMPOSELLA n. gen.

Head hemispherical, the occiput but little swollen. Eyes pilose, contiguous from vertex to base of antennae and widely separated from this point to the mouth opening, the space being deeply excavated, although the proboscis is quite rudimentary. Antennae in male about four times the length of the head; the first joint sunk in the head, the second ring-like

and short, the third enormous, about as wide as the vertical diameter of the head, flattened and blade-like. Proboscis about as long as height of head, small, cylindrical, pointed and with fine hairs on the surface; it is not rigid as in *Lasia* and *Eulonchus*, and is clearly rudimentary, not being adapted for feeding. Palpi are absent. The ocellar tubercle is rudimentary and there are no ocelli.

Thorax large and inflated as in *Lasia*, quite thickly pilose, the prothoracic lobes and upper pleura inflated and quite prominent. Upper surface of scutellum rather flattened. Postalar callosities of medium size. Squamae large and of thin texture, the surface and margins pilose. Legs of normal stoutness, all the tibiae enlarged at the tips and with a spur-like projection above. Tarsi slightly compressed laterally. Claws quite long and so formed that they can be brought together along the inner surfaces. *Pulvilli and empodia absent.*

Abdomen large and inflated in appearance, although the venter is flattened. Pile of abdomen quite noticeable. Genitalia similar to those of *Eulonchus*. Wing venation very near that of *Lasia;* the lower branch of the fourth vein has disappeared, however, and the upper branch of the third vein ends in the first just beyond its juncture with the second. In *Lasia* this is a variable character, but is constant in the species as far as known.

Genotype: *Camposella insignata* n. sp.

C. insignata n. sp.

♂.—Length 13 mm., length of antennae 5 mm. Head and eyes black with black pile. Eyes contiguous above and widely separated below the antennae. Antennae contiguous at base, first joint scarcely visible and yellow, second joint small, black and ring-like. The third antennal joint has a rounded, short basal portion which expands into a very large surface, flattened, very thin and rounded at the end. The third joint is about four times as long as the head and about 6-10 as wide as long; it is velvety black and destitute of pile. Proboscis rudimentary, slender, cylindrical and pointed, covered with very short black pile. Face black, deeply excavated below the antennae (see Pl. XI, fig. 1b). Occiput slightly swollen, the cheeks shining black and pointed below the eyes. Ocellar tubercle rudimentary, black, with a central depression which is thinly black pilose; ocelli absent.

Thorax large and inflated, brownish black in color, the anterior half thickly golden pilose with a few black hairs along the median line. Posterior half of the dorsum (more or less abraded in this specimen) black pilose, as are the postalar callosities. Scutellum colored as the thorax, flattened, of nearly uniform width, with black pile except in the center. Upper pleura inflated, yellow pilose above, black below. Squamae smoky hyaline, the surface and border with short black pile. Coxae blackish brown, the front pair yellowish pilose, the others black pilose. Femora blackish brown with black pile, paler at base and tip. Tibiae blackish, yellowish at tip, which is enlarged and with a slender spur above. Tarsi yellow, the claws yellow at base. Tibiae and tarsi with very fine, short yellow pile. *No empodia or pulvilli present.*

Abdomen very broad and inflated, but the venter flat, the general shape being very near that of *Lasia*, in which the fifth segment is much smaller than the fourth. The first three abdominal segments and basal half of fourth with rather short black pile, posterior to this the pile is golden yellow. Ground color of abdomen brownish black, near a dark mahogany color. Venter clothed with reclinate golden yellow pile. Genitalia blackish marked with yellow, with yellowish pile.

Wings brownish hyaline, a little darker near the base. Veins blackish. Venation nearly identical with that of *Lasia* (see Pl. XI, fig. 2). As in some species of *Lasia* the upper branch of the third vein (R4) ends in the first (R1+2+3) beyond its junction with the second. The lower branch of the fourth vein is missing.

This remarkable species would go in the subfamily Panopinae. Some of the genera in this group have a rudimentary proboscis, such as *Ocnaea* and *Astomella*. It has several characters in common with *Lasia*, the general shape of the body being strikingly near that genus and the venation is almost identical. The Leptidae, Nemestrinidae and Cyrtidae are separated from other families by having the empodia developed pulvilliform and it is remarkable that this species should have no sign of pulvilli or empodia. The claws close together along the inner edges as in some of the Asilidae, such as *Leptogaster*, some species of which have not even the usual bristle-like empodia. This would seem to be a very important and deep-seated character, but on account of its close resemblance to the genus *Lasia* it would not seem advisable to erect a new subfamily to receive it. Owing to the

great variation in this group of insects, characters which might be considered generic in other families are of only specific value here. Ordinarily the absence of pulvilli and empodia would place it in a new family, but it is clearly a Cyrtid, and there are no corresponding changes elsewhere in the organism. Most species of *Anthrax* lack pulvilli, but some have them, so this is a variable character in the nearly related Bombyliidae.

The antennae are very remarkable, but as we know only the male they may be a secondary sexual character. In the genus *Eulonchus* the third antennal joint is greatly enlarged and in *Ocnaea* (in the subfamily Panopinae) there are several species with a large third antennal joint. In *Ocnaea schwarzi* Cole from Cuba the third antennal joint is large and laterally compressed. In the Cyrtidae the two sexes are almost identical in appearance and if the remarkable antennae of *Camposella* are a male ornamental character it will be the first instance of this kind in the Cyrtidae. The unusual development of the antennae gives a great sensitive surface and it may be that this is utilized by the male in locating the female. The overdevelopment of one organ may be at the expense of another, and in this case the ocellar tubercle is rudimentary and the ocelli absent, but this is another variable character in the Cyrtidae.

In this species we have a connecting link between *Lasia* and *Ocnaea*. Parasitism has undoubtedly modified other genera in the Cyrtidae and we see here a changing species. The ancestral type was near *Lasia* and *Eulonchus*, both with a long proboscis; here the proboscis is aborted and the lower branch of the fourth vein has disappeared. It is undoubtedly a degenerate offshoot from the primitive type, the genus *Panops* in Australia being another such branch.

EXPLANATION OF PLATE XI.

Fig. 1. *Camposella insignata* n. gen. et sp. *a*. Last tarsal joint and claws, showing absence of pulvilli. *b*. Drawing showing excavated face and rudimentary proboscis. Most of the antennae are cut away in this view of the head.

Fig. 2. Wing of *Lasia* sp., nomenclature according to the Comstock system.

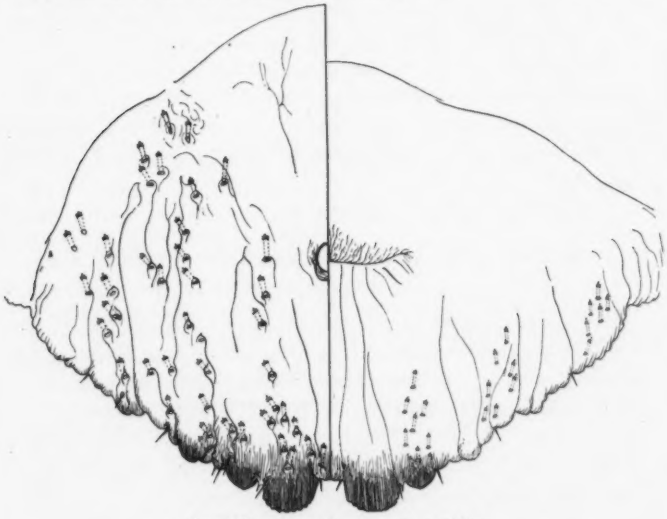
A New Species of Pseudodiaspis (Hemiptera; Coccidae).

By G. F. FERRIS, Stanford University, California.

The exact nature of the genus *Pseudodiaspis*, as I have elsewhere[1] pointed out, is doubtful, but I have previously used the genus for the reception of certain species of a more or less Diaspis-like type in which the circumgenital pores are lacking and the gland spines few or absent. As at present constituted the genus is represented only in the southwestern part of the United States and in Mexico. I am here describing a new species from this area, which I likewise refer for the present to this genus.

Pseudodiaspis multipora n. sp.

Type, host and locality. From an herbarium specimen of *Phoradendron flavescens* (from oak), Julian, San Diego County, California. Type in the Stanford Collection of Coccidae.



Pseudodiaspis multipora n. sp.; pygidium.

[1] Ferris, G. F. A Contribution to the Knowledge of the Coccidae of Southwestern United States. *Stanford University Publications, University Series.* (1919.)

Scale. Scale of the female white, rather high convex, circular, with the exuviae central, the second exuvia covered with secretion, the first exposed and of a silvery color. Ventral scale quite thick, attached at its margin to the dorsal scale. Scale of male not observed.

♀. Length .8 mm. Of the usual turbinate form. Derm membranous throughout except for the large and heavily chitinized pygidium. Abdominal segments projecting slightly at the lateral margins, without marginal gland spines but with numerous, small submarginal ducts and a few such ducts on the dorsum.

Pygidium presenting a furrowed appearance. Anal opening at about the center. Median lobes alone well developed, widely separated, prominent, broad and with the tips rounded and minutely crenulate. Second and third pairs of lobes represented merely by low prominences. Gland spines wanting, except for a very small spine between the first and second lobes. Spines small; two between the median lobes; one both dorsally and ventrally at the outer, basal angle of both the first and second lobes and two or three beyond these. Tubular ducts numerous, scattered, those of the margin no larger than those of the dorsum. The arrangement may best be explained by the figure. On the ventral aspect there are on each side three rows of small ducts. Vaginal orifice directly beneath the anal orifice.

Notes. This is a rather peculiar species, perhaps most closely resembling *P. condaliae* Ferris (ref. cited), but differing in many respects, especially in not having the cephalothorax produced laterally and in the deeply furrowed appearance of the pygidium.

Additions to Insects of New Jersey No. 7

By Alan S. Nicolay, New Brunswick, New Jersey.

Since the publication of list No. 6* by Mr. H. B. Weiss the following records have been secured. Those followed by (Dcke.) were turned over to me by Mr. Weiss who obtained them through the courtesy of Prof. J. G. Sanders after the death of Mr. V. A. E. Daecke. Since the publication of the 1909 list by Smith, Mr. Daecke kept track of various additions and corrections as evinced by his notes. It was thought advisable, however, to omit his corrections from this list and to use only the additions.

* Ent. News, vol. xxix, pp. 309-312.

ODONATA.

Aeshna canadensis E. M. Wlk. Riverton, Sept. 22 (Dcke.).

HOMOPTERA.

Idiocerus maculipennis Fitch. Jamesburg, July 4 (Dcke.).

Psyllia cephalica Craw. Hammonton, May 21; on hornbeam (Nicolay & Weiss).

HEMIPTERA.

Corizus bohemanii Sign. Merchantville, July 7 (Dcke.).

Acalypta lillianis Bueno. Lakehurst, May 2 (Barber).

Corythucha mali Gibson. Lakehurst, May 24; on apple (Barber).

Corythucha salicis O. & D. Ramsey, May 21; on willow (Barber).

COLEOPTERA.

Gyrohypnus fusciceps Lec. Riverton, May 3 (Dcke.).

Chalcophora fortis Lec. New Brunswick, June 16; on dead white pine along Raritan River (West).

Poecilonota cyanipes var. **erecta** Gory. New Jersey (Nicolay collection). Note.—*P. cyanipes* records should be referred to this variety. The records of *P. thureura* Say from New Jersey are undoubtedly misidentifications and the species should be removed from the list.

Agrilus pensus Horn. Newfoundland, July 4 (Nicolay).

Xestocis levettei Casey. Milltown, May 18; Union, May 23; Monmouth Jc., May 30; in *Polyporus versicolor* and *Fomes aplanatus* (West & Weiss).

Cis curtula Casey. Monmouth Jc., May 30, June 10; in *Polyporus pergamenus* (Weiss & West).

Sulcacis lengi Dury. Princeton Jc.; breeds in *Polyporus versicolor, gilvus* and *hirsutus*, also *Lenzites betulina*. Overwinters as adult and larva (Weiss & West).

Xylotrechus aceris Fisher. Rutherford, August 16; one specimen resting on maple leaf in nursery (Nicolay).

Zeugophora scutellaris Suffr. Arlington, June 23-August; common on poplar in a nursery, doing some damage. A European species (Nicolay).

Chaetocnema quadricollis Schwarz. Hammonton, July 8; Rutherford, June-Sept., Eatontown, August 28; Westville, Little Silver, South Amboy; on hibiscus (Dickerson & Weiss).

Apion hibisci Fall. Arlington, Rutherford; galls on petioles of marsh mallow (Dickerson & Weiss).

LEPIDOPTERA.

Cosmia (Calymnia) orina Gn. Orange Mts.; larvae on oak, May 10; adults June 17 (Lemmer).

Tinea cloacella Haw. Matawan, New Brunswick; overwinters as larva, breeds in *Polyporus sulphureus* and *tsugae* (Weiss & West).

HYMENOPTERA.

Spathius trifasciatus Riley. Wenonah, July 15 (Dcke.).

Ichneumon inurbanus Cress. Manumuskin, September 20 (Dcke.).

Stomatoceras unipunctatipennis var. **americensis** Gir. Camden Co. (Fox, Ent. News, vol. xxix, p. 127).

Closterocerus cinctipennis Ashm. New Brunswick, Asbury, High Bridge, July. Parasitic upon eggs and larvae of *Brachys ovata* (Weiss).

Exallonyx grandis Brues. Ramsey, August 22 (Jour. N. Y. Ent. Soc., vol. xxvii, p. 17).

Andronicus truncata Cress. Tom's River, July 12 (Dcke.).

Bombus bimaculatus Cress. Brown's Mills, June 17 (Dcke.).

Metopius pollinctorius Say. Elizabeth; reared from a Luna moth cocoon (Felt).

Ephedrus nitidus Gahan. New Brunswick; bred from cabbage aphis.

DIPTERA.

Chrysopila proxima Wlk. Wenonah, May 30 (Dcke.).

Dasyllis cinerea Back. Brown's Mills, May 19 (Dcke.).

Psilopodinus comatus Loew. Orange Mts., July 1 (Wdt.).

Argyra calceata Loew. Fort Lee, July 4 (Wdt.).

Neurigona maculata V. D. Forest Hill, August (Wdt.).

Neurigona floridula var. **infuscata**, V. D. Wenonah, June 22 (Dcke.).

Dolichopus marginatus Ald. Barnegat City, August 12 (Harbeck.).

Tachytrechus laticrus Coq. Manahawken, July 30 (Ent. News, vol. xxix, p. 46).

Plagioneurus univittatus Loew. Cape May, August 9 (Dcke.).

Eumerus strigatus Fallen. (The lunate onion fly). Rutherford Riverton, Orange; all summer and occasionally in greenhouses during the winter. A European species now common in New Jersey; larvae live in onions and bulbs, sometimes causing serious injury (Nicolay).

Spilomyia quadrifasciata Say. Fort Lee, September 3 (Bequaert).

Crioprora cyanogaster Loew. Palisades, March 31; rare on pussywillow (Nicolay).

Pipiza pistica Williston. Lakehurst, June 20 (Nicolay).

Myiolepta nigra Loew. Lambertville, April 19; flying along road like bee (Nicolay).

Chilosia cyanescens Loew. New Brunswick, June 15 (Nicolay).

Xanthogramma felix O. S. Riverton, June 15 (Dcke.).

Helophilus bilinearis Williston. Secaucus, April 17-May 7; moderately abundant on dogwood and other blossoms (Nicolay).

Chrysochlamys buccata Loew. Malaga, April 26 (Nicolay).
Criorhina notata Wied. Manumuskin, May 19 (Dcke.).
Physocephala castanoptera Loew. Caldwell, August 5 (Nicolay).
Trichopoda lanipes Fabr. Mt. Airy, Philadelphia, Pa., August 23 (Laurent).
Clausicella tarsalis Coq. Lucaston, May 30 (Dcke.).
Hypostena nitens Coq. Stone Harbor, July 29 (Dcke.).
Phorocera tortricis Coq. Lucaston, August 6 (Dcke.).
Tachina rustica Fall. Forest Hill, August (Wdt.).
Masicera chaetoneura Coq. Forest Hill, June (Wdt.).
Masicera festinans Meig. Forest Hill, June (Wdt.).
Sturmia fraudulenta v. d. Wulp. Brown's Mills, May 21 (Dcke.).
Schizotachina convecta Wlk. Lucaston, Sept. 3 (Dcke.).
Theresia canescens Wlk. DaCosta, June 29 (Dcke.).
Helomyza latericia Loew. Lucaston, September 7 (Dcke.).
Ophthalmomyia lacteipennis Loew. Brown's Mills, June 22 (Dcke.).
Camptoprosopella verticalis Loew. DaCosta, June 3 (Dcke.).

Preliminary Notes on Texas Tachinidae (Diptera).

By H. J. REINHARD, Entomologist, Texas Experiment Station, College Station, Texas.

The Tachinidae listed in this paper were all collected on the campus of the Agricultural and Mechanical College, or in the immediate vicinity of College Station, Texas, unless otherwise mentioned. The relative abundance of flies in this locality, belonging to the family, was the impetus to give them more than casual attention. Three years of intermittent collecting have resulted in a large number of specimens being taken, many of which have not been heretofore recorded from this state. The purpose of these collections was to determine the relative abundance of the various species with a view to ascertain their economic importance in a more comprehensive manner at some future time.

All plant determinations were made through the kindness of Messrs. H. Ness, Horticulturist, and H. B. Parks, Apiculturist, of the Texas Agriculture Experiment Station.

Archytas analis Fabricus. This is one of the most common species of this locality. It appears in early February and is very abundant throughout the spring and fall months. Less common in

midsummer. 73 specimens were taken in 10 minutes on November 9, 1917. In early spring collections were made largely from broom weed, *Amphiachyris dracunculoides* Nutt.; in the fall it was common on bitter weed, *Helenium tenuifolium* Nutt., wild aster, *Aster lateriflorus* Britton. Also common on *Rudbeckia bicolor* Nutt.; sweet clover, *Melilotus alba* Desv.; Prairie cacia, *Cecuan illinoensis* Kuntze, and many others. Reported by Parks as abundant in wheat fields infested by army worms in North Texas. Bred from army worm collected by A. P. Swallow, at Denton, Texas; fly issued June, 1919. A series of several hundred specimens taken, which vary from 7 to 15 mm. in size. Also collected in Knox, Foard and Dallas Counties, Texas. Previously reported from Waco, Texas, by Coquillett, Revis. Tachin. N. A. 1897, p. 142.

Belvosia bifasciata Fabricus. A series of 108 specimens taken on one afternoon, May 3, at *Stillingia sylvatica* L. A few specimens collected from prickly ash, *Xanthoxylum clava* Herculis, sweet clover, *Melilotus alba* Desv., and *Baccharius haliumfolia* L. Two specimens received from Center Point, Kerr County, Texas, and has been collected at Navasota, Texas, by Parks. This is one of the robust and more attractive species in this vicinity. Very conspicuous in nature, by its black body and wings, and deep yellow on last two abdominal segments. Macrochaetae abundant and well developed, varying somewhat in numbers and arrangement. The series is quite uniform in size, the smallest specimen measuring 11 mm. and the largest 16 mm. in length. Collecting dates range from April 17 to October 1. Reported from Waco, Texas, by Coquillett, Revis. Tachin. N. A. 1897, p. 84.

Cistogaster immaculata Macquart. Adults collected from blossom of *Ptilimnium capillaceum* Hollick. This species is rather sluggish in its movements. Several specimens taken by sweeping grass. Not abundant but persistently present throughout the spring and summer. Probably a parasite of some Hemipterous host. Dr. Aldrich in Ann. Ent. Soc. Amer., Vol. 8, March, 1915, p. 81, states that there is no trustworthy breeding record. Abdomen of male yellow and female black, destitute of stout macrochaetae. A series of twenty-six specimens taken, dates ranging from April 7 to November 11. Reported from Texas by Coquillett, Revis. Tachin. N. A. 1897, p. 43.

Chaetogaedia analis v. d. Wulp. One male specimen collected by A. H. Hollinger in Hamilton County, Texas, May 15. The specimen was taken in connection with other species, in a wheat field heavily infested by army worms. This may indicate a host relationship for this species. It has been reported bred from *Heliophila unipuncta*. Not collected at College Station, Texas.

Celatoria diabroticae Shimer. A large series of specimens taken from flowers and sweeping grass. Abundant throughout the spring and summer. The specimens vary in size from 4 to 6 mm. The characters which serve to separate this species from *Tachinophyto floridensis* are obscure and the species may easily be confused. Coquillett's description appeared under the name of *Celatoria crawii*, Insect Life, Vol. 2, February, 1890, p. 235, and later it was placed in synonymy with *Celatoria diabroticae*. A few characters which serve to separate it from *Tachinophyto floridensis* may be mentioned here.

Eyes bare, face much receding below; antennae nearly as long as face, arista thickened on basal half. Scutellum with three pairs of marginal macrochaetae and a short discal pair, apical cell terminating nearly at extreme wing tip and closed in the margin, third vein with one strong bristle at base. This species is a parasite of *Diabrotica vittata* and *12-punctata*. Reported from College Station, Texas, by Coquillett, Revis. Tachin. N. A. 1897, p. 59.

Exorista pyste Walker. Common throughout the summer. Characterized by a high-pitched note in flight, not unlike *Winthemia quadripustulata*, which species it resembles in nature. Collected from various flowers and particularly from foliage near the ground. Also collected in Knox County, Texas. A parasite of Lepidoptera. Specimens vary greatly in size, ranging from 4 to 8 mm. in length. Previously reported from Tiger Mills, Texas, by Coquillett, Revis. Tachin. N. A. 1897, p. 93.

Frontina archippivora Williston. Not common, one male specimen taken in the insectary, May 4, 1918. Eight additional specimens collected from flowers of broom weed, *Amphiachyris dracunculoides* Nutt., in October, 1917. A moderately large species, the specimens are nearly uniform in size. Reported as a parasite of several species of caterpillars. Also collected in Knox County, Texas. Listed from Texas by Coquillett, Revis. Tachin. N. A. 1897, p. 106.

Gonia capitata DeGeer. In this locality this species is uniformly light yellow and more robust than the dark form of the north. Not abundant, most common in late summer and fall. Collected from a large number of wild flowers, most frequently on broom weed, *Amphiachyris dracunculoides* Nutt. Also collected in Wilbarger County, Texas, in May, 1919. A series of 34 specimens taken; all robust, nearly uniform in size, but with large variations in color markings. Collecting dates range from May 3 to November 11. Reported from Texas by Coquillett, Revis. Tachin. N. A. 1897, p. 133.

Heteropterina nasoni Coquillett. Not abundant, but persistently present throughout May, June and July. It has been reported as bred from a grasshopper, by W. R. Walton, Proc. U. S. N. M., 1914, Vol.

48, p. 181. A rather small, light colored species, abdomen marked with rows of black spots. In nature it resembles somewhat a species of Sarcophagidae. Several specimens captured in insectary. It has been taken by sweeping grass and from foliage near the ground. A series of 17 specimens show a great variation in size, the smallest measuring 3.5 and the largest 6 mm. in length. In some specimens the sides of the face are bare, in others distinctly hairy.

Metopia leucocephala Rossi. This is another small species, but more conspicuous with its silvery white shining face. A series of 37 specimens taken in May and June. Several specimens taken from bare ground, more common on low foliage. There is no published breeding record for this country, according to Dr. Aldrich, Ann. Ent. Soc. Amer., March, 1915, Vol. 8, No. 1, p. 83. Ranges in size from 4 to 7.5 mm. Previously recorded from Kennedy, Texas, by Coquillett, Revis. Tachin. N. A. 1897, p. 127.

Myiophasia aenea Wiedemann. A medium large, shiny black species, not abundant. More common in late summer and fall. Adults collected largely from bitter weed, *Helenium tenuifolium* Nutt. Collecting dates range from March to October. Species vary from 6 to 9 mm. in length.

Neopales doryphorae Riley. This species is abundant in the spring and summer. Adults collected from a large number of flowers and especially from foliage near the ground. A moderately large species nearly uniform in size ranging from 6 to 8 mm. in length. Collected also in Knox County, Texas, May, 1919.

A new genus, *Doryphorophaga*, for the reception of this species, was proposed by Dr. C. H. T. Townsend, Proc. Ent. Soc. Wash., Vol. 14, p. 164. W. R. Walton has already pointed out, in Proc. U. S. N. M., Vol. 48, 1914, p. 183, several reasons why he thinks the species should be retained in the genus *Neopales*. Mr. Walton's statement: "The eyes are thickly hairy in the male as a rule, those of the female being so nearly bare in some cases as to require the utmost care in order to see the hairs at all," has been found to be correct in specimens examined. He further states that "the intermediate segments of the abdomen seldom bear discal macrochaetae in either sex, and are almost invariably absent in the female." Examination of 144 specimens shows this statement to be correct only in part. Out of 36 females examined 6 had discal macrochaetae on the second and third abdominal segments,

11 with a weak pair of discal macrochaetae on the second segment and none on the third, and 19 without any discal macrochaetae. Examination of 108 males gave the following figures: 42 with discal macrochaetae on the second and third abdominal segments, 65 with discal macrochaetae on second segment only, and only 1 in which were absent on both second and third segments. Mr. Walton further states that the ventral carina exists, but only slightly developed and not in the sense that we find it in *Celatoria* or *Chaetopheps*, and this has been sustained upon examination of the entire series of 144 specimens. In conclusion he argues "that until further and more reliable external characters, especially in the case of the male, are discovered, it would seem expedient to retain this species in the genus *Neopales*, for the present."

Pachyophthalmus floridensis Townsend. A medium large species, almost entirely destitute of strong macrochaetae and with three black vittae on thorax gives it very much the appearance of a sarcophagid. Collected largely from broom weed, *Amphiachyris dracunculoides* Nutt. Frequently sits on foliage and grass near the ground. Not abundant. Collecting dates from July to October. Specimens vary from 6 to 9 mm. in length. Collected at Waco, Texas, according to Coquillett, Revis. Tachin. N. A. 1897, p. 80.

Peleteria robusta Wiedemann. A robust species common in the spring and fall, much less prevalent during midsummer. The southern form of this species has more yellow on the sides of the abdomen and lacks the bluish tinge of the northern form. Considerable variation in color markings. Has been collected and reported by Parks as very abundant in wheat fields infested by the army worm in northwest Texas. It was bred from the army worm; the adult fly issued May 23, 1919. Specimens vary in size from 9 to 13 mm. Collected in Wilbarger and Foard Counties. Reported from Texas by Coquillett, Revis. Tachin. N. A. 1897, p. 140.

Phorocera claripennis Macquart. Very common throughout the year. Collected from March to November from a large number of plants. A parasite of Lepidoptera, and has been reported bred from a large number of species. Reared from army worm, which was collected in Hamilton County, Texas; the adult fly issued June 4, 1919. Specimens vary greatly in size, the largest measuring 12 and the

smallest 5 mm. in length. Collected in Knox County, Texas. Listed from Texas by Coquillett, Revis. Tachin. N. A. 1897, p. 102.

Plagia americana v. d. Wulp. A medium-sized, shiny black species. Most common in early spring. Collected frequently in low damp places from foliage near the ground. Rarely taken in midsummer. Quite uniform in size, varying from 6 to 9 mm. in length. Collected also in Knox County, Texas.

Plagiprospherysa parvipalpis v. d. Wulp. Common in the spring and summer. 17 specimens taken in the insectary in June and July. Collected from aphid-infested cotton and cucumber foliage. Specimens vary greatly in size, ranging from 4 to 8 mm. in length.

Senotainia rubriventris Macquart. Not very abundant but present throughout the year. Collecting dates range from March to November. Frequently collected from bare ground. Probably a parasite of some soil-burrowing host. Prof. Herbert Osborn observed this species entering the burrow of a pompilid wasp (Ohio Naturalist, Vol. 7, p. 38). The specimens vary from 4.5 to 8.5 mm. in length.

Senotainia trilineata v. d. Wulp. Abundant from April to October. Like the above species, it is most commonly collected from the ground and it probably parasitizes some similar soil-burrowing host. Dr. Aldrich, Ann. Ent. Soc. Amer., Vol. 8, March, 1915, p. 82, states, "Presumably they parasitize these (burrowing) Hymenoptera as their European congeners do, but none have been bred in this country." A large series of specimens taken, varying from 3 to 6 mm. in length. Listed from Texas by Coquillett, Revis. Tachin. N. A. 1897, p. 80.

Sturmia albifrons Walker. A medium large species, not frequently collected here, adults taken from low foliage. Specimens vary from 7 to 10 mm. in length. Reported from Paris and Waco, Texas, by Coquillett, Revis. Tachin. N. A. 1897, p. 110.

Sturmia distincta Weidemann. One of the more robust species of this genus. Rather common from July to October, but not abundant at any time. Frequently taken from cowpea foliage. Varies from 8 to 11 mm. in length. Previously reported from Palestine, Texas, by Coquillett, Revis. Tachin. N. A. 1897, p. 111.

Sturmia limata Coquillett. Not often collected. Smaller than either of the above species and may be recognized by the shiny black color of the last two abdominal segments. Several specimens taken from low foliage, one from *Baccharius heliumfolia* L. About uniform in size, measuring 6 to 7 mm. in length.

Tachinophyto floridensis Townsend. A common species, which has been collected from May to November. Taken from flowers and by sweeping grass. The species is small and varies in size from 4 to 7 mm. in length. It resembles *Celatoria diabroticae* very closely. A few characters which may serve to distinguish it are given here.

Eyes nearly bare, microscopically, sparsely hairy; face receding below, antennae usually not reaching the oral margin, arista thickened on basal 2-5; scutellum with three marginal and a shorter discal pair of macrochaetae, with an additional suberect apical pair, sometimes very small. Apical cell narrowly open and ending shortly before extreme wing tip. Third vein with at least two bristles near the base.

Tachinophyto dunningii Coquillett. An abundant, minute species, readily recognized by the shiny black abdomen with the narrow bases of last three segments white pollinose. Collected from flowers, but more frequently from low foliage. Common from May to October. Series of specimens about uniform in size, measuring 5 mm.

Tachinophyto vanderwulpi Townsend. A small species like the above. Much less abundant. Frequently taken in company with *Tachinophyto floridensis*, which species it resembles closely, although usually smaller. Collected largely from foliage near the ground. Specimens range from 4 to 5.5 mm. in length.

Trichophora ruficauda v. d. Wulp. Collected from April to November from foliage and flowers. Persistently common, but not abundant. Usually elongate, but some specimens are robust and resemble *Peleteria robusta* very closely. Specimens range from 8 to 11 mm. in length. Listed from Texas, by Coquillett, Revis. Tachin. N. A. 1897, p. 139.

Winthemia quadripustulata Fabricus. Very abundant and widespread. Common throughout the year. Collected from many different flowers, but it can be more frequently taken from low foliage and grass. In flight it has a distinct high-pitched note. A long series of specimens show a great variation in color markings. The most common form has the sides of the abdomen yellow, but frequently yellow only, on the second and third segments. In several specimens the abdomen is wholly black except the last segment, which is yellow. A few others have the abdomen bright orange-yellow excepting a medium dorsal row of black spots. Also a great variation in size, specimens ranging from 5 to 12 mm. in length. Reported by Parks as very abundant in wheat fields infested by the army worm of northwest Texas. A parasite of Lepidoptera and reported as having been bred from a large number of species.

The Bees of the Rocky Mountain National Park (Hymenop.).

By T. D. A. Cockerell, Boulder, Colorado.

A large area in the most beautiful and interesting part of the Colorado Rocky Mountains has recently been set aside as a National Park. To this playground come many thousands of people every summer to enjoy the relatively cool climate, the mountain scenery, the plant and animal life. Mr. Enos Mills, of Longs Peak Inn, has written a number of excellent popular books, describing the country and giving his observations on the habits of bears, beavers and other animals. He has tried for many years to stimulate an intelligent interest in nature, while at the same time curbing that spirit of destruction which leads people to shoot the animals and pull up plants in a wholesale and reckless manner. Occasionally someone breaks the rules, but on the whole the behavior of visitors to the Park, at least in the vicinity of Longs Peak Inn, is excellent. The multitude, coming primarily for rest and recreation, finds itself in a new kind of school, where fresh impressions and ideas are received every hour. One must be extraordinarily dull not to return from such a holiday with new intellectual interests as well as increased physical vigor. The Park is new, and awaits development in various directions. One of the principal items on the program should be a Natural History Survey. The intensive and scientific study of such an area would produce results of the greatest interest to all biologists, and would make possible many interpretations of natural phenomena instructive to ordinary non-scientific visitors. The indiscriminate collecting of specimens should not be encouraged, but materials must be gathered in a systematic manner to determine the character and distribution of the biota. We should have a committee or commission to carry on the undertaking after the manner of the Clare Island Survey, the results of which have been published by the Royal Irish Academy. Following the technical investigations, the general results and more interesting

details should be re-interpreted in popular fashion for the use of the average citizen.

In the course of a week in the Park, during July, 1919, my wife and I collected bees. The series obtained evidently represents only a minority of the species actually existing in the area, but is worth recording. The names of the localities are abbreviated as follows:

(1) Canadian Zone.

L.—Long's Peak Inn. July 19 and 21.

T. S.—Twin Sisters Mountain, directly east of Long's Peak Inn. All the collecting was done on the lower slopes, in the Canadian Zone, July 23.*

L. P. T.—Long's Peak trail, July 18. Most of the collecting was done in the Canadian Zone, but a few specimens probably were from the Hudsonian.

(2) Hudsonian Zone.

H.—Hudsonian Zone on Long's Peak trail, July 22.

(3) Arctic-alpine Zone.

T. L.—Just above timber line on the Long's Peak trail, July 20. The two species from *Pentstemon* flowers were at timber line.

B.—Battle Mountain, well above timber line, July 20.

COLLETIDAE.

Colletes kincaidii Ckll. L., one ♂.

Colletes sp. L., one ♂.

Colletes sp. L., one ♀. This and the preceding are apparently new, but they may have been described in Professor Swenk's revision, not yet published.

PROSOPIDIDAE.

Prosopis personatella Ckll. L., 2 ♀.

Prosopis varifrons Cress. L., 2 ♂. H, 1 ♂, 4♀. L. P. T., 1 ♂.

Prosopis tridentula Ckll. L. P. T., 1 ♂.

Prosopis coloradensis Ckll. L., 2 ♀. These are considerably larger and more robust than *P. tuertonis* Ckll., generally considered to be the female of *coloradensis*. Possibly *tuertonis* is distinct after all, but I cannot assert this at present.

* On Twin Sisters, in an aspen grove, I took several specimens of the Tipulid fly *Ormosia cockerelli* (det. Alexander), a little yellow species described by Coquillett under *Rhypholophus* in 1901, from a single specimen which I took in the Hudsonian Zone in New Mexico. Mr. Alexander had never seen any but the type.

ANDRENIDAE.

Andrena birtwelli Ckll. T. S., 1 ♀ at *Potentilla.*

Andrena lewisii Ckll. T. S., 1 ♀ at *Rosa.*

Andrena moesticolor Vier. & Ckll. L. P. T., at *Potentilla*, 1 ♂.

Andrena apacheorum Ckll. L., 1 ♀, 1 ♂. L. P. T., 3 ♂, at *Erigeron* and *Senecio.*

Andrena topazana Ckll. L., 1 ♀, July 19, the dorsal pubescence gone and wings tattered.

Sphecodes eustictus Ckll. L., 5 ♀. T. S., 1 ♀. H., 1 ♀. T. L., 1 ♀. This species has remarkable altitudinal range; it was described from the lower part of the Transition Zone.

Sphecodes millsi n. sp.

♂. Length about 7 mm.; head and thorax black, with silvery white hair, dense on face; apical half of mandibles red; legs black, with the knees, fore tibiae except a large mark on outer side, apices of middle and hind tibiae, and all the tarsi, clear ferruginous; antennae long, moniliform, the flagellum dull testaceous beneath; second and third joints equal, and combined almost as long as fourth; mesothorax and scutellum highly polished, with sparse but distinct punctures; area of metathorax large, semilunar, covered with coarse vermiform rugae; posterior truncation very coarsely punctured; tegulae dark reddish brown; wings hyaline, stigma and nervures fusco-ferruginous; third submarginal cell very large, broad above; spurs pale ferruginous; abdomen elongate, smooth and highly polished; first segment black with apical margin broadly red; second and third red with a broad black band, suffusedly interrupted laterally; fourth black with apical margin broadly red; fifth black, as also sixth; apical plate red.

Longs Peak Inn, on an umbelliferous flower, July 21 (*Cockerell*). Named after Enos Mills. Allied to *S. clematidis* Rob., but larger, with the abdomen differently marked. From *S. sulcatulus* Ckll. it is easily known by the largely red legs.

Halictus lerouxii Lepel. T. S., 1 ♂ at *Oreocarya virgata.*

Halictus galpinsiae Ckll. T. L., 1 ♂. I was astonished to find this at such an altitude.

Halictus virgatellus Ckll. L., 1 ♂. The male is new, and is determined as this species because it has the characters to be expected in male *virgatellus.* It differs from *H. typographicus* Ckll. by the entirely dark antennae, gravish wings and much darker stigma.

Halictus pruinosiformis Crawf. L., 1 ♀.

Halictus peraltus Ckll. L., 1 ♂, July 19 (*W. P. C.*).

Halictus nigricallis Vachel. L., 1 ♂. The tubercles have a small inconspicuous pale spot posteriorly.

Halictus peralpinus n. sp.

♀. Length about 6.5 mm., anterior wing 5.4 mm.; black, including legs, but the flagellum with a light fulvous streak beneath, not reaching base or apex; hair of head and thorax scanty, sordid white; head longer than broad; mandibles reddened at apex; lower part of clypeus shining, upper part dull; supraclypeal area shining; front dull, the whole surface minutely sculptured between the punctures; mesothorax dull, with very fine punctures, and the surface lineolately sculptured between; area of metathorax very finely and delicately wrinkled; tegulae piceous; wings dusky hyaline, stigma reddish brown; hind spur pectinate with few spines; abdomen shining, not banded, hind margins of segments brownish.

Longs Peak trail, Colorado, above timber line, July 20, 1919 (*Wilmatte P. Cockerell*).

Differs: (*a*) from *divergens* Lovell by the larger, broader head, dull mesothorax, and absence of distinct white hair-patches on abdomen; (*b*) from *dasiphorae* Ckll. by the dull mesothorax, without punctures distinctly visible under a lens, and the pale streak on flagellum; (*c*) from *inconditus* Ckll. by the dull mesothorax.

Halictus supranitens n. sp.

♀. Length about 6 mm., anterior wing about 5.3 mm.; black, including legs and antennae, apical half of mandibles reddened; hair of head and thorax scanty, sordid white; head rather elongated, with prominent clypeus, which is shining, with large sparse punctures; supraclypeal area and sides and lower part of front shining, the front extremely densely and finely punctured; mesothorax and scutellum polished, with fine rather sparse punctures; area of metathorax very finely wrinkled, its posterior margin prominent, obtuse, shining; posterior truncation shining, concave in lateral view; tegulae black with a brown spot; wings hyaline, stigma and nervures reddish brown; second submarginal cell broad; legs with white hair, a red brush at end of hind basitarsus; hind spur with three large spines; abdomen shining, pruinose with dull white pubescence, but without distinct bands or hair-patches.

Longs Peak trail, Colorado, above timber line, July 20, 1919 (*Cockerell*). Differs: (*a*) from *inconditus* Ckll. by the clear wings, more shining thoracic dorsum, and shining posterior rim of metathoracic enclosure; (*b*) from *dasiphorae* Ckll. by similar characters; (*c*) from *divergens* Lovell by the dark tegulae, clear wings, etc.

Halictus glaucovirens n. sp.

♀. Like *H. pruinoziformis* Crawf., but head elongated as in *H. pruinosus* Rob., from which it differs by the darker flagellum, and more strongly and less densely punctured mesothorax, with a shining sparsely punctured area on each side of the middle. The insect is glaucous green, with pure white pubescence; wings hyaline, stigma pale yellowish, subcostal nervure black. The thorax is not so robust as in *pruinosus*.

Longs Peak trail, above timber line, July 20, 1919 (*Cockerell.*)

Halictus hudsoniellus n. sp.

♀. Length about 5 mm.; slender, with unusually pointed abdomen; head and thorax olive-green, the scutellum and mesopleura more glaucous green; labrum and apical half of mandibles red; flagellum strongly reddened except at base; pubescence pure white; legs black, with the knees, tibiae at apex and the tarsi reddened; tegulae yellowish testaceous; wings hyaline, stigma and nervures testaceous, subcostal nervure black; abdomen apricot-color, shining, the third and following segments pruinose with white hair. Head subcircular; front shining; mesothorax dullish, finely punctured; scutellum shining; area of metathorax appearing minutely granular, but under compound microscope showing irregular vermiform anastomosing raised lines; the mesothorax posteriorly is more or less (microscopically) transversely sulcatulate; hind spur with four large spines.

Longs Peak trail, Hudsonian Zone, July 22 (*Cockerell*). The altitude of the locality is probably about 10,500 feet.

Related to *H. scrophulariae* Ckll., but smaller, and easily separated by the red labrum, much redder antennae, abdomen more hairy on apical parts with the surface of fourth and fifth segments darkened under the hair. From *H. clematisellus* Ckll. it is known by the much more hairy abdomen. The head is not nearly so broad as in *H. clarissimus* Ellis.

Halictus sp. L. P. T., 1 ♂, at *Senecio* (*W. P. C.*). An undescribed male which I cannot clearly associate with any known female; it is perhaps a new species. It is a small *Chloralictus* with olive-green mesothorax, black abdomen, and pale testaceous stigma.

Halictus viridatulus n. sp.

♀. Like *H. viridatus* Lovell, with the same highly characteristic radiating plicae on area of metathorax, though these are not quite so strong. It differs from *H. viridatus* by the dusky stigma and entirely

black abdomen. The antennae are only slightly reddish beneath toward apex. Supraclypeal area and upper part of clypeus brassy; front blue-green, dullish, very densely punctured, its lower part microscopically transversely lineolate; mesothorax and scutellum dullish rather dark blue-green; pleura dark blue-green; tegulae piceous; wings dusky; stigma and nervures dilute brownish; hind spur with large spines; abdomen polished; second segment with thin white hair at sides and base; third and following segments thinly hairy all over.

Longs Peak Inn, Colorado, July 19 (*Cockerell*). Also one on July 21. A western mountain representative of *H. viridatus*. The sculpture of the metathoracic area separates it at once from the superficially similar *H. ruidosensis* Ckll. In the second specimen the upper part of clypeus and supraclypeal area are not brassy.

PANURGIDAE.

Halictoides maurus Cress. H., 1 ♂.

Halictoides harveyi Ckll. L. P. T., 1 ♂ at *Potentilla*. L., 1 ♂.

Panurginus cressoniellus calochorti Ckll. T. S., 1 ♂, 1 ♀. L., 8 ♂, 7 ♀.

Panurginus bakeri Ckll. H., 1 ♂, 1 ♀.

Panurginus porterae Ckll. L., 1 ♂ (*W. P. C.*).

NOMADIDAE.

Nomada fontis Ckll. L., 1 ♀, July 19 (*W. P. C.*). Evidently this species, but possibly a local (mountain) race, as it differs from the type by the blacker abdominal bands, larger yellow mark on sides of second segment, and pair of subdorsal yellow spots on fourth and fifth segments.

Nomada (Phor) siccorum n. sp.

♂. Length nearly 7 mm.; head, thorax and abdomen black, with creamy-white markings; pubescence very scanty, white, tinged with brown on thorax above; head broader than long; eyes gray; face with appressed silvery hair; labrum, mandibles except apically, narrowly interrupted band on lower margin of clypeus, lower corners of face with linear extension upward, and the swollen scape anteriorly, all yellowish-white; flagellum black or nearly so above, ferruginous beneath; third antennal joint much shorter than fourth; mesothorax dull, rugosopunctate, wholly black; tubercles with a light spot; mesopleura with a transverse white mark anteriorly; scutellum (which is not prominent) and metathorax wholly black; tegulae bright ferruginous; wings slightly dusky, strongly so on apical margin; stigma dull rufous, nervures fuscous; basal nervure meeting transversomedial;

first recurrent nervure joining middle of second submarginal cell; legs ferruginous, black at base, and variably black posteriorly, the hind pair strongly so; fore and middle tibiae with a white dot at base and larger spot apically; hind tibiae with a large white mark at each end, the interval between blackened; abdomen brown-black, the first four segments with interrupted cream-colored bands, that on second extremely broad, the fifth and sixth with entire bands, bands on second and third segments emarginate on each side posteriorly, the next two enclosing black spots; apical plate narrow, entire; venter reddish marked with white.

Longs Peak Inn, in a dry sandy spot, July 21 (*Cockerell*). Quite distinct from the other species of *Phor.* Among Cresson's species of *Nomada*, it suggests *N. gracilis*, but that has the apical plate of abdomen notched and the abdomen is differently marked. In my table of Rocky Mountain species it runs to *N. aquilarum*, which differs in the antennae, etc.

Nomada sedae n. sp.

♀. Length nearly 9 mm.; head, thorax and legs ferruginous, marked with black, the only yellow being a spot on each side near apex of metathorax; head broad; eyes very dark reddish; mandibles simple; disc of clypeus extremely finely punctured; lower middle of front, region of ocelli, and cheeks posteriorly, black; antennae red above and below; third joint fully as long as fourth, perhaps a little longer; mesothorax closely punctured, with a single median black band; metathorax with a broad median black band; mesopleura red, but sides of thorax black anteriorly and posteriorly; tegulae yellowish-ferruginous; wings dusky, with the usual hyaline area; stigma clear ferruginous, nervures fuscous; basal nervures going a short distance basad of transversomedial; second submarginal cell very large, receiving recurrent nervure in middle; legs red, fore and middle femora with a large black basal spot beneath, hind coxae black behind except at apex, hind femora rather extensively blackened at base and behind; abdomen red, shining, the first segment with more than basal half black, and four minute obscure yellowish spots along the margin of the black; apex of first segment, and second and third subapically, with blackish bands; second and third segments with very broad but broadly interrupted bright yellow bands; fourth with an entire band deeply emarginate posteriorly at sides; fifth with a band interrupted on each side, leaving a round lateral yellow spot; margin of fifth with a band of dense silvery white tomentum; pygidial plate very large, thinly hairy; venter red without yellow markings.

Longs Peak Inn, July 21, at flowers of *Sedum stenopetalum* (*W. P. Cockerell*). Runs in the Rocky Mountain key (Bull. 94, Colo. Agr. Exper. Station) to 65, but is quite distinct from *N. libata, coloradensis* or *mera*. On account of the structure of the antennae it falls near *N. alpha* Ckll., from which it is easily known by the markings.

MELECTIDAE.

Phileremus americanus Cress. H., 1 ♂.

ANTHOPHORIDAE.

Anthophora smithii Cress. L., 1 ♂. This differs from the New Mexico race (*cardui* Ckll.) by having the clypeus, etc., clear white (cream-color in *cardui*), and the eyes purplish-gray (pale green in *cardui*).

Clisodon terminalis Cress. L., 2 ♀. T. S., 1 ♀. L. P. T., 1 ♀.

Melissodes kelloggi n. sp.

♂. Length about 9 mm. Runs in my table of *Melissodes* (Trans. Am. Ent. Soc., xxxii, p. 76) to *M. rivalis* Cress., but is smaller and otherwise different. The general aspect is that of *M. agilis* Cress., but it is readily distinguished by the dark purplish or blue-green (not pale green or pea-green) eyes, the entirely black labrum and base of mandibles, the darker antennae (flagellum black above) and the dark fuscous nervures. Compared with *subagilis* Ckll., it is at once distinguished by the color of eyes and antennae. The thorax has very pale ochreous tinted hair, with no dark hairs on the dorsum.

Longs Peak Inn, July 19 and 21 (*T. D. A. and W. P. Cockerell*). 5 ♂. Dedicated to Professor Vernon Kellogg, in recent years distinguished for his great services to humanity, but long ago a keen collector and student of the insects of the Long's Peak region.

MEGACHILIDAE.

Coelioxys ribis Ckll. L., 1 ♀ (*W. P. C.*).

Coelioxys moesta Cress. L. P. T., at *Senecio*, 1 ♀ (*W. P. C.*).

Megachile montivaga Cress. L. P. T., at *Phacelia*, 1 ♂ (*W. P. C.*). L., 3 ♂.

Megachile pugnata Say, H., 1 ♂. L., 1 ♀, 1 ♂.

Megachile wootoni Ckll. T. L., 2 ♂ above timber line, one ♀ at *Pentstemon stenosepalus*, at timber line (*W. P. C.*). T. S., fls. *Campanula*, 1 ♂.

Megachile vidua Smith. L., 1 ♂.

Monumetha albifrons Kirby. L., 2 ♀, 1 ♂ (one ♀ at *Astragalus*). T. S., 1 ♀, 2 ♂.

Osmia armaticeps Cress. L., 2, one at *Gaillardia*. L. P. T., 2 (one at *Arnica*). All the numerous specimens of *Osmia* taken, representing eight species, were females.

Osmia fulgida Cress. T. S., 1 (*W. P. C.*).

Osmia megacephala Cress. T. S., 1 at *Cirsium*. L. P. T., one at *Thermopsis* (*W. P. C.*).

Osmia pentstemonis Ckll. H., 1. T. L., 2 at *Pentstemon stenosepalus* (*W. P. C.*). L., 2 (one at *Astragalus*).

Osmia longula Cress. L., 2 at *Astragalus*.

Osmia wardiana Ckll. L., 1.

Osmia densa Cress. L., 3 at *Astragalus*. T. S., 2 at *Cirsium*.

Osmia albolateralis Ckll. L., 6 (5 at *Astragalus*).

Anthidium tenuiflorae Ckll. L., 2 ♀, 1 ♂.

BOMBIDAE.

All the specimens taken were workers.

Bombus mixtus Cress. B., 1.

Bombus edwardsii bifarius Cress. T. L., 2 (one at *Elephantella*, *W. P. C.*).

Bombus flavifrons Cress. H., 2.

Total 57 species; 9 new. The types of the latter are in the writer's collection.

Variation in Color Pattern of the Dragonfly Gomphus crassus (Odonata).

By E. B. WILLIAMSON, Bluffton, Indiana.

"Walsh's remark (Proc. Ent. Soc. Phila. II, p. 239, 1863) that the Illinois species of Gomphus seem to have the appendages of the males 'nearly as uniform as a set of castings from the same foundry and the same mould' seems to hold true for these three species, (*fraternus, externus, crassus*) but his statement as to the specific value of minute differences of coloration and its constancy must evidently be modified in view of the variations above detailed."—Calvert, Ent. News, XII, pp. 72 and 73, March, 1901.

In ENTOMOLOGICAL NEWS, May, 1906, p. 148, I mentioned specimens of *Gomphus* which were intermediate between *crassus* and *fraternus*. At that time I still thought of *fraternus* as a species with the dorsum of abdominal segment 9 black and of *crassus* as a species with the dorsum of the same segment with a yellow spot or bar. Moreover, at that time I did

not have my present ability in discriminating likenesses and differences in abdominal appendages. The material, upon which the notes of 1906 were made, is now widely scattered in collections and a re-examination of it is impossible. But for several years past I have had it in mind to repeat the observation again at the earliest opportunity, as I felt some doubts as to the accuracy of my earlier conclusions.

A chance to make this study came this year, when on June 8, 1919, I found *G. crassus* again abundant at a ripple in the Wabash where the river flows along the city corporation line of Bluffton, Indiana. Only two gomphines were on the wing at the ripple and these were *G. crassus* and *fraternus*. Of the former seventy-six males and eleven females, and of the latter about twenty males were taken. These specimens, it may be repeated, were all taken at one short ripple on the same day.

A constant color character not hitherto employed for separating the males of the two species was detected. In *fraternus* the sterna of abdominal segments 8 and 9 are largely yellowish. In *crassus* the same sterna are largely brown, patterned in lighter and darker brown, with the only pale area a greenish or yellowish bar, or two spots, anterior to the parameres. The seventy-six males of *crassus* were so colored and the appendages of all were identical.

But in the color pattern of the dorsum of the apical abdominal segments the seventy-six males of *crassus* showed a wide variation. The following tabulation by groups will give a fairly accurate statement of the facts:

Group I. A minute basal dorsal yellow spot on 8, dorsum of 9 and 10 black ..... 2 males
Group II. Like I, but spot on 8 slightly larger.....12 males
Group III. Like II, but spot on 8 slightly larger and segment 9 with a dorsal basal yellow point .....10 males
Group IV. Segment 8 about as in III or spot slightly larger, spot on 9 slightly larger .....18 males
Group V. Spot on 8 larger than in IV, on segment 9 about one-fourth to one-third the length of the segment .....13 males
Group VI. Similar to V, but spot on segment 9 one-half or slightly more than half the length of the segment.....10 males
Group VII. Similar to VI, but spot on segment 9 wider and reaching or almost reaching the apex of the segment... 6 males

Group VIII. Similar to VI, but the spot on segment 9 wider and reaching the apex, but not as wide as the black on either side of it ..... 4 males
Group IX. Yellow on segment 9 as wide as the black on either side of it, segment 10 with a rounded dorsal yellow spot ..... 1 male

Referring to the dorsum of segment 10, mentioned in group IX, its color in the other groups may be briefly tabulated: black in two of I, eleven of II, eight of III, twelve of IV, five of V, three of VI, and one of VII; with a narrow crest or spot of yellow (often almost microscopic) on the middorsum of segment 10, one of II, two of III, six of IV, eight of V, seven of VI, five of VII, and four of VIII.

The eleven females of *crassus* may be grouped as follows:

Group I. Dorsum of segments 9 and 10 black.....7 females
Group II. Dorsum of 9 and 10 each with a small yellow spot, subbasal on 9, submedian on 10 .....3 females
Group III. Spot on 9 prolonged as a median line to apex of segment, spot on 10 larger than in groups I and II...1 female

In view of this material I believe my reference in 1906, referred to above, to intermediates between *crassus* and *fraternus*, should be disregarded, and I know of no evidence pointing to the interbreeding of these two species.

Several cases of the capture in couple of sexes of different species have been recorded. The most unique I have encountered was met when I took a male *Argia tibialis* flying with a female *Lestes uncatus* along the Aboite River, seven miles southwest of Ft. Wayne, Indiana, July 6, 1919. During the time they were observed before capture several unsuccessful attempts at copulation were made.

At this date *Argia tibialis* was abundant along the Aboite River, which is only a creek eight to fifteen feet wide, while *Lestes uncatus* was at home in numbers at nearby small woodland swamps from one of which the female along the creek had doubtless wandered.

Annual Meetings of Entomologists.

The annual meeting of The Entomological Society of America will be held on Monday and Tuesday, December 29 and 30, 1919, and that of The American Association of Economic Entomologists on Wednesday, December 31, 1919, and Thursday and Friday, January 1 and 2, 1920, both at St. Louis, Missouri.

Hesperia syrichtus and montivagus (Lep.).

By Henry Skinner.

Dr. J. L. Reverdin has published an interesting article* on *Hesperia syrichtus* Fab. He gives the synonymy of the species and has made an extensive study of the genitalia from numerous specimens. As this is a North American species, it is of interest to our students of the butterflies. He describes and figures the typical form and also two new varieties, *fumosa* and *syrichtides*. *Fumosa* is the common form at Key West, Florida. The whole underside of the secondaries is light brown.

It has been a matter of considerable interest to know what the *Pyrgus montivagus* of Reakirt is. I have previously pointed out† that *montivagus* Reak. is a synonym of *syrichtus* Fab. The evidence that this is so is very good, but it is hardly possible to know these things absolutely. *Montivagus* has been treated in different ways by a number of authors. The original description says: "Hab.—Rocky Mountains, Colorado Territory. (Coll. Tryon Reakirt)." "Mexico, near Vera Cruz." "Wm. H. Edwards." "Most probably an Alpine modification of the common *Pyrgus oileus*." *Pyrgus oileus* West.-Humph. pl. 38, fig. 14-15, is said by the authors to be a North American insect and the figures probably represent *syrichtus* Fab., where it is placed by Kirby in his catalogue. The Tryon Reakirt collection was purchased by Herman Strecker and it is now in the Field Museum, Chicago, Illinois.

Strecker cites‡ as the types of *montivagus*, "One ♂, one ♀, Rocky Mts., Colorado, Coll. Reakirt."

Mr. W. J. Gerhard, of the Field Museum, has supplied me with information in regard to these types.

"There are in his collection (Strecker) two specimens, a male and a female, with a red-bordered pin label on each and with the inscription, '*Pyrgus montivagus*, Colorado, Reak. Orig. type, Coll. Reakirt.' The male, which is spread to show the under side, is of average size, and, with one exception, agrees exactly with the specimen you sent as *syrichtus*. The exception is that the color of the secondaries below

*Bulletin of the Lepidopterological Society of Geneva, Vol. IV, p. 96, 1919.

†Ent. News, 17, 277, 1906.

‡Strecker, Rhop. and Het., Suppl. 3.

is of a light brownish tinge; so much so is this the case that the transverse macular bands are very indistinct. The secondaries of the female, which is smaller than the male, and is also pinned to show the under surface, are likewise suffused with a light brown tinge."

Mr. Gerhard says the male has the tuft of hairs near the base of the hind tibiae. Unless it can be shown that the description of *montivagus* represents something different from these types, *montivagus* Reak. becomes a synonym of *syrichtus* Fab.

A new Tachytes from Georgia (Hymenop.: Larridae).

By J. Chester Bradley, Cornell University, Ithaca, New York.

Tachytes auricomans n. sp.

♂. Color, pile and wing color as in *crassus*, the golden pubescence very pronounced. Length 16 mm.

Agrees in structure and sculpture with *crassus*, except in the following points: segments 4 and following of the antennae are less rounded out beneath than are those of *crassus;* the vertex less narrowed; (in *crassus* the least distance between the eyes is scarcely if any more than the length of the 3rd antennal segment, in *auricomans* it is considerably more); clypeus with the external lateral tooth acute and prominent, the anterior border between these teeth evenly and but slightly rounded (in *crassus* these teeth are blunt and not so prominent, and the middle part of the margin between them is produced into a small rounded lobe).

Habitat.—Georgia: Oglethorpe, 1 July, 1910, 3 ♂ (the author).

Type.—Holotype, Cornell University, No. 147.1, paratype, No. 147.2; paratype in collection of Georgia State Board of Entomology.

Sugaring for Moths (Lepid.).

It is possible that moths, like some people, will not greatly fancy the new near-beer, in place of their old tipple of stale beer and brown sugar. So here is a new recipe and a suggestion.

While camping this summer, my wife tried to make some wild goose-berry jelly. Being a long ways from a source of supply, she used too little sugar, and the result was a sticky syrup that did not "jell." Part of it fermented, standing in a glass jar where the sun hit it. I poured the fermented goose-berry syrup down an alder, and that evening found four Catocalae, besides several small Noctuids, on the one tree-trunk. Unfortunately, I did not have enough sugar to experiment further, but it is very likely that the fermented juice of any local fruit or berry, with a little sugar added, possesses the proper "kick" to attract moths. I had tried the regulation mixture of beer and sugar, in other years, in the same locality, and never had a single Noctuid come to the bait.—W. H. Ireland, Maricopa, California.

ENTOMOLOGICAL NEWS.

PHILADELPHIA, PA., DECEMBER, 1919.

After Thirty Years.

When this number of the NEWS reaches the reader, there will stand on the editor's shelves thirty completed volumes of this journal, unbound, except for their original pink paper covers, which, when they first appeared, led one subscriber, and contributor to the first number, to protest that the color suggested too much a patent medicine advertisement. For a few issues that subscriber's copy was bound in white paper, but the pink cover was retained for the magazine as enabling it to be picked out readily from others in a pile.

The Treasurer of the Society which has stood back of the NEWS from the start is fond of telling the story that when it first appeared it was freely predicted that it would not last six months, but time has proven the contrary.

There lies before the editor a single sheet, printed on both sides, headed, "A New Entomological Journal. To be published Under the auspices of the Entomological Section of the Academy of Natural Sciences of Philadelphia, and the American Entomological Society." It is dated "Philadelphia, Pa., Dec. 1, 1889" and continues:

> It has for some time been apparent to Entomologists in this country that there was unoccupied room for a journal of Entomology devoted less to the dry details of descriptive and classificatory work and more to the news and gossip which is always of interest to entomological workers.

The circular continues in the words of the Announcement, occupying the first two pages of Volume I, Number 1, which actually appeared January 14, 1890.

The pressure of other work and the non-receipt of desired information have made it impossible to fulfil always the purposes for which the NEWS was founded, and we still welcome, to quote the Announcement again:

> Scientific papers, news notes, reports of societies, etc., . . from all sources to make this journal just what its name implies, a compend of entomological news.

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

A Loved and Respected Entomologist.

I had gone up to the Pocono Mountains by the way of the Wind Gap and as the roads were worse than a flown butterfly without any scales, I decided to return to Philadelphia by the way of the Delaware Water Gap. In the Gap, in front of the Kittatinny House, I saw coming down the side of the mountain an individual with a net. Having experienced the usual salutation and having read of it in the words of the individual, I said, "Goin' fishin'?" It was a mean joke and I felt ashamed of it, but the question popped out like a pea from a pod. The answer came, "No, I don't fish, I am an entomologist." I then asked, "What is an entomologist?" "An entomologist is one who studies and collects insects." My reply was to the effect that collecting insects was a foolish and silly thing to do and not worth while. The entomologist said, "What is worth while?" I felt that I was being looked upon with pity and perhaps scorn, on account of my not being an entomologist, but when I admitted I did not know what was the use of anything, I was finding a little favor and was getting near the wisdom of Socrates when he said, "I know that I know nothing, others know not even this." Then the entomologist said, "Do you know how old I am?" and I guessed 79, but the answer came back, "No, 81." I had forgotten that I had not seen the entomologist for several years and that "tempus fugits." I then spoke of the White Mountains of New Hampshire, where I had just spent my vacation and where the entomologist had collected many summers, I think 28, and that I always told the lovers of nature that I met up there to read "Fishin' Jimmy" and the other stories in the "Seven Dreamers" and that they were full of local color and breathed the spirit of the mountains. Then we walked toward our auto and I told my wife that I had loved and respected this entomologist for many, many years and she was not a bit jealous as she felt exactly the same as I did. This entomologist was very good to me in the years gone by and there is many a specimen in my collection taken at Franconia in the White Mountains and Biscayne Bay in Florida. The entomologist has spent fourteen summers at the Delaware Water Gap and is still more active than many a person forty years younger. I was not recognized, but finally admitted that I was fond of entomology and that I had more than a million insects under my care and that I really did not think that everyone I saw with a net was "goin' fishin'."

Preservatives for Plants and Insects.

October 20, 1917, the writer preserved Hessian fly infested wheat and army worm (*Cirphis unipuncta*) larvae in the following solutions, hot and cold.

1. Salicylic acid 1-16 ounce, alcohol (95 per cent.) ½ ounce, water 16 ounces.
2. Sulfurous acid ¼ ounce, water 16 ounces.
3. Formalin 7½ per cent.
4. Zinc chloride ½ ounce, water 24 ounces.
5. Corrosive sublimate ⅛ ounce, glycerine 3¼ ounces, water 32 ounces.

A recent (March 7, 1919) examination gives the following results: The wheat plants were well preserved in salicylic acid and formalin solutions, but the color badly faded and there was apparently no difference in the hot and cold solutions. The corrosive sublimate-glycerine mixture preserved the plants fairly well when used hot, but those preserved in cold solution were blackened and rotten. The sulfurous acid and zinc chloride solutions gave the best results, preserving the color of the foliage very well. In the case of the sulfurous acid those preserved cold were apparently better. In the case of zinc chloride it was impossible to determine the relative merits of the hot and cold mixtures as the plants preserved cold were partly out of the solution, causing them to fade somewhat.

The army worms preserved in sulfurous acid and corrosive sublimate-glycerine solutions were in very poor condition. Salicylic acid-alcohol preserved the larvae nicely and, although color is faded, the markings are distinct. The cold solution apparently did not preserve the form quite as perfectly, but the colors are better preserved. Formalin preserved the shape, color and markings in fair condition, the ones preserved hot being the better. Zinc chloride gave the best results and the colors are well preserved, those preserved hot seemingly the better.

The need of preservatives which will preserve colors to a fair degree and at the same time preserve the shape of plants and insects is evident, and these notes are given in hopes other workers will have an opportunity to test these and other solutions in comparison. From the few tests we have made the sulfurous acid and zinc chloride solutions prove to be fairly good plant preservatives, while zinc chloride gives good indications as a preservative for larvae.—JOHN J. DAVIS, Riverton, New Jersey.

Entomological Literature.

COMPILED BY E. T. CRESSON, JR., AND J. A. G. REHN.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species, will be recorded.

The numbers in **Heavy-Faced Type** refer to the journals, as numbered in the following list, in which the papers are published.

All continued papers, with few exceptions, are recorded only at their first installments.

The records of papers containing new genera or species occurring north of Mexico are all grouped at the end of each Order of which they treat.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

2—Transactions of The American Entomological Society, Philadelphia. **4**—Canadian Entomologist, London, Canada. **7**—Annals of The Entomological Society of America, Columbus, Ohio. **8**—The Entomologist's Monthly Magazine, London. **10**—Proceedings of the Entomological Society of Washington, D. C. **11**—Annals and Magazine of Natural History, London. **17**—Lepidoptera, Boston, Mass. **22**—Bulletin of Entomological Research, London. **29**—Annual Report of the Entomological Society of Ontario, Toronto.

41—Bulletin de la Societe Entomologique Suisse, Bern. **53**—Nature Study Review, Ithaca, N. Y. **62**—Bulletin of the American Museum of Natural History, New York. **70**—Journal of Morphology, Philadelphia. **76**—Nature, London. **100**—Biological Bulletin of the Marine Biological Laboratory, Woods Hole, Mass.

GENERAL. Andrews, H. V.—A suggestion [regarding printed lists for collections]. **17,** iii, 65-6. **Brues, C. T.**—Classification of insects on the characters of the larva and pupa. (Biol. Bul., Woods Hole, Mass. xxxvii, 1-21.) **Criddle, N.**—Some insect problems in the prairie provinces. **29,** xlix, 32-5. **Davis, J. J.**—Present day problems in entomology. **29,** xlix, 47-59. **Johnson, H. L.**—A cheap substitute for the riker mounts. **17,** iii. 66-7. **Lochhead, W.**—Some chapters of the early history of entomology. **29,** xlix, 69-81. **Morris F. J. A.**—The life history of a hobby horse. **29,** xlix, 39-46. **Muttkowski, R. A.**—The fauna of Lake Mendota [Wisconsin] (Trans. Wisconsin Acad. Sci. Arts & Let., xix, 374-482). **Nielsen, J. C.**—Undersogelser over entoparasitiske Muscidelarver hos Arthropoder. VII. (Vidensk. Medd. fra Dansk Naturh. Foren. Kobenhaven, lxx, 1-57.) **Van Hyning, T.**—Insect larvae destroying Physa [Molluscal. (The Nautilus, xxxiii, 71-2). **Wolley Dod, F. H.**—Obituary. **4,** 1919, 239-40.

GENETICS, ETC. Goldsmith, W. M.—Comparative study of the chromosomes of the tiger-beetles. **70,** xxxii, 437-87. **Nakahara, W.**—Study of the chromosomes in the spermatogenesis of the stonefly, Perla immarginata. **70,** xxxii. 509-29. **Onslow, H.**—The inheritance of wing colour in L. (Journ. of Genetics, viii, 209-258.) **Richards, M. H.**—Two new eye colors in the third chromosome of Drosophila melanogaster. **100,** xxxv, 199-206. **Seiler, J.**—Researches on the sex-Chromosomes of Psychidae (Lep.) **100,** xxxvi, 399-404.

MEDICAL. Goeldi, E. A.—Darmkanal und russel der stubenfliege vom sanitarischen standpunkte aus. **41,** xii. 418-31. **Hill, G. F.**—Relationship of insects to parasitic diseases in stock (Proc. Roy. Soc. Victoria, xxxi. 11-107). **Metz, C. W.**—Anopheles crucians, as an agent in malarial transmission. (U. S. Pub. Health Rept., Reprint No. 536.) Observations on the food of Anopheles larvae. (U. S. Pub. Heal. Rept., Rep. No. 549.)

ARACHNIDA & MYRIAPODA. Emerton, J. H.—Notes on the spiders collected by F. Johansen in Northeastern Greenland (Vidensk. Medd. fra Dansk Naturh. Foren. Kobenhaven, lxx, 143-5). **Nebel, C. E.**—The amount of food eaten by the spider Aranea sericata. (Trans. Wisconsin Sci. Arts & Let., xix, 524-30.)

Chamberlin, R. V.—New western spiders. **7,** xii, 239-60.

NEUROPTERA. Bagnall, R. S.—Brief descriptions of new Thysanoptera. **11,** iv. 253-77. **Dean, F. R.**—A flight of the mayfly at Fenton, Mo. **17,** iii. 74. **Selys-Longchamps, E.**—Collections zoologiques. Catalogue, Fasc. iii, pt. 1-2, Copeognatha, Isoptera; xvi, pt. 2, Libellulinen. **Thompson, C. B.**—The development of the castes of nine genera and thirteen species of Termites. **100,** xxxvi, 379-98.

ORTHOPTERA. Bodkin & Cleare.—An invasion of British Guiana by locusts in 1917, with a complete illustrated account of the life history of the species. **22,** ix, 341-57. **Hebard, M.**—A new Central Am. genus & sp. of the group Blattellites (Blattidae). **2,** xlv, 303-6.

Hebard, M.—New gen. & sps. of Melanopli found within the U. S. (Acrididae). A new gen. & sps. of roach from the U. S. and tropical N. A. (Blattidae). **2,** xlv, 257-98; 299-302. **Rehn, J. A. G.**—Descriptions of new and critical notes upon previously known forms of N. A. Oedipodinae (Acrididae). **2,** xlv, 229-55.

HEMIPTERA. Baker, A. C.—Aphids: their human interest. **29,** xlix, 28-32. **Kornhauser, S. I.**—Sexual characteristics of the membracid, Thelia bimaculata. **70,** xxxii, 531-635. **Matheson, R.**—A study of the plant lice injuring the foliage and fruit of the apple. (Mem. 24, Cornell Univ. Agr. Exp. Sta., 679-762.) **Smith, L. B.**—The life history and biology of the pink and green aphid. (Virginia Truck Exp. Sta. Bul., No. 27.) **Wilson & Vickery.**—A species list of the Aphididae of the world and their recorded food plants. (Trans. Wisconsin Acad. Sci. Arts & Let., xix, 22-355.)

Fracker, S. B.—Chariesterus and its neotropical relatives (Coreidae.) **7,** xii, 227-30. **Davis, J. J.**—Miscellaneous aphid notes. **4,** 1919, 228-34. **Herbert, F. B.**—A new sp. of Matsucoccus from the pines in California. **10,** xxi, 157-61. **McAtee, W. L.**—Report on a second collection of Nova Scotian Eupterygid leaf-hoppers, including descriptions of new varieties. **4,** 1919, 225-6. **Sanders & De Long**—Eight new "Jassids" from the eastern U. S. **7,** xii, 231-38.

LEPIDOPTERA. Comstock, A. B.—The American silk-worms. **53,** xv, 263-77. **Drz, A.**—Organes pulsatiles des L. (Revue Scien., lvii, 532). **Dixey, F. A.**—Opening address, Section of Zoology, British Association at Bournemouth. [Mimicry]. **76,** civ, 121-26. **Proud, A. E.**—My study of moths from living specimens. **53.** xv, 286-91. **Reiff, W.**—Notes and additions to Barnes' and McDunnough's illustrations of the genu Catocala. Catocala herodias. **17,** iii, 69-70; 73-4. **Rowley, R. R.**—Descriptions of four Catocala larvae. **4,** 1919, 226-7. **Ruckers, H.**—Notes on the male genital system in certain L. **7,** xii, 192-213. **Welch, P. S.**—The aquatic adaptations of Pyrausta penitalis. **7,** xii, 213-26.

DIPTERA. Davidson, W. M.—Notes on Allograpta fracta. **4,** 1919, 235-9. **Hamm, A. H.**—Observations on the horse bot-fly, Gastrophilus equi. **8,** 1919, 229-30. **Johnson, C. W.**—A revised list of the D. of Jamaica. **62,** xli, 421-49. **Plath, O. E.**—A muscid larva of the San Francisco bay region which sucks the blood of nesting birds. (Univ. Calif. Pub., xix, 191-200). **Tothill & McLaine**—The recovery in Canada of the brown-tail moth parasite (Compsilura concinnata). **29,** xlix, 35-9.

COLEOPTERA. Beaulieu, G.—Monographie des Melasides du Canada. (Le Naturl. Canadian, xlvi, 73-83, cont.)

Wickham, H. F.—Scaphinotus (Pseudonomaretus) mannii n. sp. (Carabidae). **10,** xxi, 170-3.

HYMENOPTERA. Hutson, J. C.—The N. A. species of the genus Sceliphron. **2,** xlv, 203-227. **Larue, P.**—Vue des couleurs par une abeille. (Revue Scien., Paris, lvii, 565.)

Gahan, A. B.—Descriptions of seven new sps. of Opius. (Braconidae). **10,** xxi, 161-70.

ÉTUDES DE LEPIDOPTÉROLOGIE COMPARÉE. By CHARLES OBERTHUR. Fascicule XVI. This volume contains a long article on the lepidoptera of Barbary. The second article is by Gédéon Foulquier on *Carcharodus baeticus* in "Bouches-du-Rhone." Observations relative to the life-history of *Lycaena alcon*. The stages of *Lycaena alcon* by Dr. T. A. Chapman. *Orrhodia rubigo* Ramb. by Philippe Henriot. Observations on *Carcharodus altheae*, by Harold Powell. André Avinoff describes a wonderful melanic aberration of *Papilio podalirius* which he calls *lucifer*. The volume ends with a document on the conservation of *Parnassius apollo*. There are twenty-six plates of the same excellent character as in the previous volumes.—H. S.

Feldman Collecting Social.

Meeting of June 8th, 1919, at the residence of H. W. Wenzel, 5614 Stewart St., Philadelphia. Nine members present, Pres. H. W. Wenzel in the chair.

Diptera.—Mr. Hornig stated that formerly there were millions of *Aëdes sollicitans* Wlk. at Weccacoe Avenue in Philadelphia Neck, but since the government has filled in this neighborhood they have entirely disappeared.

Coleoptera.—Mr. H. W. Wenzel said he had gone to Anglesea, New Jersey, on May 30th, and at that time there were strong westerly winds, but during the night they shifted to the east, and he went to the beach early in the morning, where he found the grasses, etc. (blown to sea the night before) cast at high tide mark by the easterly winds. Under this debris he found eight species and a variety of *Sphenophorus* as follows: *aequalis* Gyll., *pertinax* Oliv. (and a variety with red tint above and red band below), *setiger* Chitt., *villosiventris* Chitt., *costipennis* Horn, *venatus* Say, *zeae* Walsh and *mealanocephalus* Fabr.

Lepidoptera.—Mr. Hornig exhibited a specimen of *Chrysophanus thoe* Boisd. which he collected in Philadelphia Neck, June 12, 1919, Mr. Laurent stating it was the fourth he had seen from this locality in all his collecting experience.

At the meeting of September 17th, 1919, nine members present, Pres. H. W. Wenzel in the chair, being the first meeting since the summer collecting season, general discussion was the order of the evening.

GEO. M. GREENE, *Sec'y.*

Correction.

Page 247 of the NEWS for November, 1919, strike out the tenth line from the bottom: "hand side of the specimen has the wings normal male, and the right"

ENTOMOLOGICAL NEWS

AND

PROCEEDINGS

OF THE

ENTOMOLOGICAL SECTION

OF THE

ACADEMY OF NATURAL SCIENCES

OF

PHILADELPHIA.

VOLUME XXX, 1919

PHILIP P. CALVERT, Ph.D., Editor.
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PHILADELPHIA:
ENTOMOLOGICAL ROOMS OF
THE ACADEMY OF NATURAL SCIENCES,
LOGAN SQUARE.

1919.

The several numbers of the NEWS for 1919 were mailed at the Philadelphia Post Office as follows:

No. 1—January	January 4, 1919
" 2—February	January 31,
" 3—March	March 7
" 4—April	April 3
" 5—May	May 1
" 6—June	May 29
" 7—July	June 30
" 8—October	October 10
" 9—November	November 5

The date of mailing the December, 1919, number will be announced in the issue for January, 1920.

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(* indicates *new* genera, species or varieties.)

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☞ These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and only when necessary those at the top (being longest in) are discontinued.

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